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Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.12/KRIDL/CEMENT/2013-14

Date: 24.02.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
AGENCY	:	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	:	Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.
REFERENCE	:	EE/DD/WO/166/2013-14 Dated: 12.12.2013
SAMPLE ID	:	Cement
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4)	29.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5)	140 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	495 Minutes	Not More than 600 Minutes
3	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm

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ಮೈಸೂರು ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು.

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Job No.: CTCE/BBMP/W.No.12/KRIDL/SAND/2013-14 : 24.02.2014

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of Work : Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.

Reference : EE/DD/WO/166/2013-14 Dated: 12.12.2013

Date of Testing : 24.02.2014

Material : Sand Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	63	6.30	6.30	93.7	90-100
2.36	115	11.50	17.80	82.2	75-100
1.18	223	22.30	40.10	59.9	55-90
600 Micron	208	20.80	60.90	39.1	35-59
300 Micron	232	23.20	84.10	15.9	8-30
150 Micron	96	9.60	93.70	6.3	0-10

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Job No.: CTCE/BBMP/W.No.12/KRIDL/AGG/2013-14 : 24.02.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of Work : Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.

Reference : EE/DD/WO/166/2013-14 Dated: 12.12.2013

Date of Testing : 24.02.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **10000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	195	1.95	1.95	98.05	95-100
20	5265	52.65	54.60	45.40	30-70
10	2240	22.40	77.00	23.00	10-35
4.75	1930	19.30	96.30	3.70	0-5

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Job No.: CTCE/BBMP/W.No.12/KRIDL/STEEL/2013-14 24.02.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
Name of the Work	:	Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	EE/DD/WO/166/2013-14 Dated: 12.12.2013
Date of Test	:	24.02.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	8	0.40	510	552	13.10	O.K	O.K

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Job No.: CTCE/BBMP/W.No.12/KRIDL/STEEL/2013-14 24.02.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
Name of the Work	:	Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	EE/DD/WO/166/2013-14 Dated: 12.12.2013
Date of Test	:	24.02.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	513	556	13.35	O.K	O.K

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Job No.: CTCE/BBMP/W.No.12/KRIDL/CUBE/2013-14 26.03.2014

TEST REPORT ON CONCRETE CUBES

Client : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of the work : Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.

Reference : EE/DD/WO/166/2013-14 Dated: 12.12.2013

Sample ID : RCC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	26.02.2014	26.03.2014	8.267	511.3	22.72
2	26.02.2014	26.03.2014	8.152	497.3	22.10
3	26.02.2014	26.03.2014	8.374	521.6	23.18

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.12/KRIDL/CUBE/2013-14 28.03.2014

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	: **Technical Manager (West),** KRIDL, Bangalore.
Name of the work	: Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: EE/DD/WO/166/2013-14 Dated: 12.12.2013
Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	28.02.2014	28.03.2014	8.367	529.3	23.52
2	28.02.2014	28.03.2014	8.254	516.2	22.94
3	28.02.2014	28.03.2014	8.196	504.7	22.43

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Job No.: CTCE/BBMP/W.No.12/KRIDL/CUBE/2013-14 02.04.2014

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	: **Technical Manager (West),** KRIDL, Bangalore.
Name of the work	: Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: EE/DD/WO/166/2013-14 Dated: 12.12.2013
Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	05.03.2014	02.04.2014	8.185	488.5	21.71
2	05.03.2014	02.04.2014	8.267	504.7	22.43
3	05.03.2014	02.04.2014	8.342	513.6	22.83

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Job No.: CTCE/BBMP/W.No.12/KRIDL/CUBE/2013-14 05.04.2014

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	: **Technical Manager (West),** KRIDL, Bangalore.
Name of the work	: Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: EE/DD/WO/166/2013-14 Dated: 12.12.2013
Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	08.03.2014	05.04.2014	8.294	504.2	22.41
2	08.03.2014	05.04.2014	8.153	491.7	21.85
3	08.03.2014	05.04.2014	8.326	517.4	23.00

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Job No.: CTCE/BBMP/W.No.12/KRIDL/Pre Cast Slab/2013-14 10.03.2014

TEST REPORT ON CONCRETE CORE (PRE CAST SLAB)

Name of Client	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Name of Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
Name of work	:	Improvements to road Shettyhalli village in Ward No.12 of Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	EE/DD/WO/166/2013-14 Dated: 12.12.2013
Techinical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Sample ID	:	Precast Slab
Date of Testing	:	10.03.2014

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	82.00	0.404	2509.21	1.64	0.965	32.20	16.40	17.71	17.09	21.36
2	50.00	83.00	0.410	2515.80	1.66	0.965	32.65	16.63	17.96	17.33	21.66
3	50.00	84.00	0.417	2528.29	1.68	0.970	33.15	16.88	18.23	17.69	22.11

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